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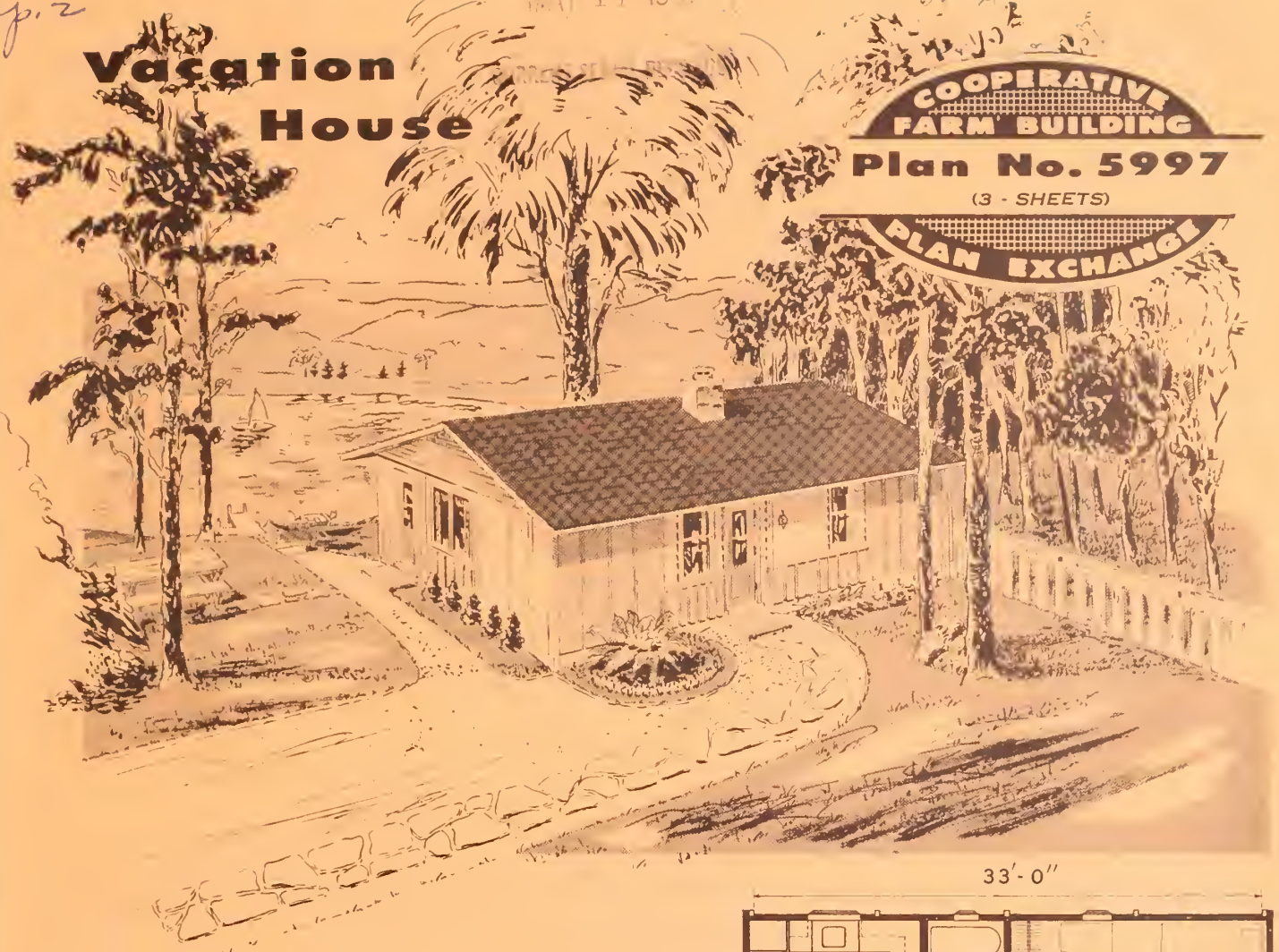
U. S. DEPT. OF AGRICULTURE  
NATIONAL ARCHIVES

MAY 11 1967

# Vacation House

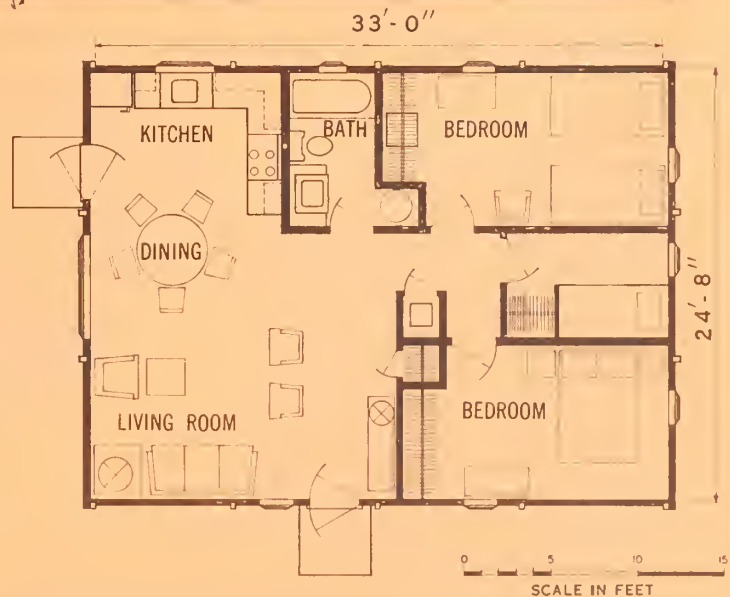
COOPERATIVE  
FARM BUILDING  
Plan No. 5997  
(3 - SHEETS)

PLAN EXCHANGE



Comfort, convenience, safety, and economy were designed into this house by agricultural engineers at Beltsville, Md. The heating system uniformly distributes heat from any type of heater—wood, coal, gas, or oil-fired. The standards of convenience and sanitation found in the most expensive home are maintained in this low cost house. The framing makes use of each timber to reduce the framing material without reducing the strength. Wall panels, trusses, and floor systems were load-tested to prove the strength. This method of construction, as described in Miscellaneous Publication 1020, is commended because of the low cost and the simplicity adapted to construction by the home owner.

The outstanding features of this house are the post-and-girt construction and a free-floating floor that promotes perimeter distribution of warmed air. Central heating is accomplished without ductwork. In addition to these two improvements in construction methods, the



house embodies the usual cost saving features of multiple use of space, minimum traffic lanes, and omission of unnecessary trim or doors.

Washington, D.C.

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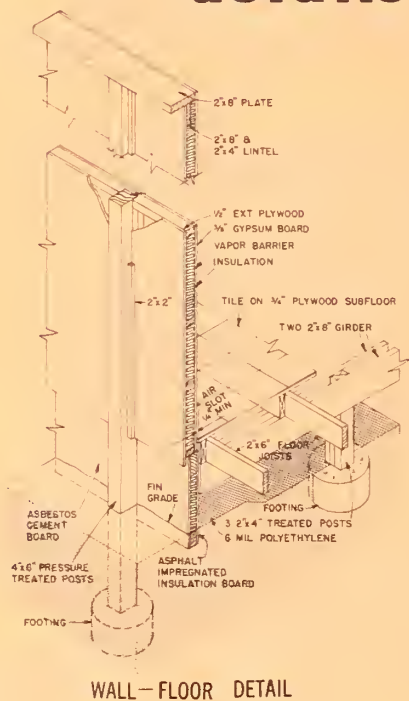
March 1967

UNITED STATES DEPARTMENT OF AGRICULTURE

Miscellaneous Publication No. 1052



## construction details



## SUPERIOR HEATING AT LOWER COST

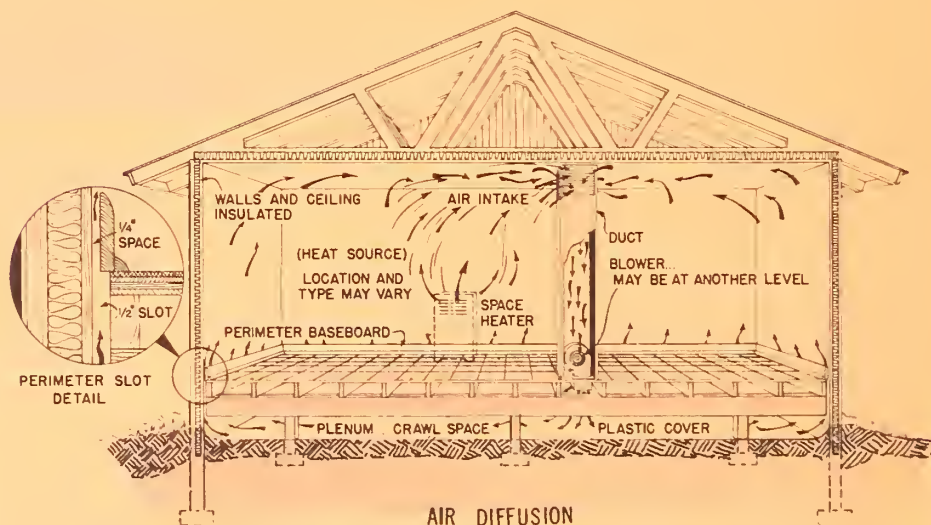
Draft-free comfort and uniform temperature characterizes the perimeter slot heating system. A fan draws warm air from a centrally located intake near the ceiling and delivers it into the crawl space beneath the floor. Since the crawl space is at a little higher air pressure than the house, air flows through the 1/4-inch wide slot around the entire periphery of the house. This warm air gives a warm floor and a warm wall, resulting in freedom from draft and uniformity in temperature.

Tests of temperature distribution show that the best uniformity is maintained with continuous operation of the circulating fan. Temperature uniformity was somewhat better when the air was heated with a down-draft type of hot air furnace than it was when it was heated with a space heater sitting in one corner of the living room. However, tests show that both sources of heat were superior to the perimeter loop type of hot air

Pressure treated 4- by 6-inch posts set 8 feet and 4 inches on center serve as foundation members; as the columnar support for the airtight, insulated, skirt wall around the crawl space; and as the columnar supports for the curtain wall sides and roof. The built-up plate and lintel system is continuous around the entire periphery of the house to tie it together. No further lintels are needed over either doors or windows. The full 8-inch wide top plate member and the 8-inch deep lintel form an excellent fastening foundation for the roof trusses. This continuous tie from the foundation through the trusses makes this construction more resistant to wind damage than conventional platform framing.

Horizontal nail ties 2 feet on center are notched onto the posts to give precision spacing and alinement, a help in speedy erection. The curtain-wall sides are continuous on the interior, but are placed between the posts on the exterior. The skirt-wall beneath the floor is a little over 2 inches thick and is installed on the inside of the posts. Continuity of the skirt makes it easy to make it airtight. It is important to install no ventilators in the crawl space of this house.

The floor is supported on continuous cantilevered joists and girders. This system of support carries the interior load independently of the exterior loads and shrinkage. This improved technique prevents doors and windows from being pulled out of line and sticking. In conventional construction, floor settlement creates problems in the walls. The floor can be installed after the roof and walls are placed. Interior partitions are placed after the floor and ceiling are in place.



system. Engineers are confident that the perimeter slot-heating system gives superior heat distribution at lower cost than conventional systems.

Complete working drawings may be obtained from the Extension agricultural engineer at your State university. There may be a small charge to cover cost of printing.

If you do not know the location of your State university, send your request to Agricultural Engineer, Federal Extension Service, U.S. Department of Agriculture, Washington, D.C. 20250. He will forward your request to the correct university.



